



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,455	06/01/2006	Michal Amit	32059	2318
67801 7590 01/18/2011 MARTIN D. MOYNIHAN d/b/a PRTSI, INC. P.O. BOX 16446 ARLINGTON, VA 22215			EXAMINER TON, THAIAN N	
			ART UNIT	PAPER NUMBER
			1632	
			MAIL DATE	DELIVERY MODE
			01/18/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	Application No.	Applicant(s)	
	10/581,455	AMIT ET AL.	
	Examiner	Art Unit	
	Thaian N. Ton	1632	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 10 January 2011 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 6 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 52,55,57-60,74,75 and 78-101.  
Claim(s) withdrawn from consideration: 61-73.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☒ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). 8/5/10  
13. ☐ Other: \_\_\_\_\_.

/Thaian N. Ton/  
Primary Examiner, Art Unit 1632

Continuation of 11. does NOT place the application in condition for allowance because:

Claims 52, 55, 58-60, 74, 75, 78-80, 85, 86, 88-94, 99, 100 and 101 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson et al. (Science, 282: 1145-1147, November 6, 1998, cited previously) in view of Harper (J. of Assisted Reproduction and Genetics, 13(2): 90-95, 1996) in further view of US Pat. No. 7,390,659 (Issued June 24, 2008, cited previously) and Elsea et al. (ILAR Journal, 43(2): 66-79, 2002, cited previously).

Applicants argue that the prior rejection must fall because Jessell does not have an effective date as a reference which is prior to the effective filing date of the present application. In particular, Applicants argue that the Jessell patent's issued claim 1 is the first time that a claim was presented with a step of obtaining or generating a culture of human ES cells, "wherein the ES cells contain a mutation in a gene selected from the group consisting of a superoxide dismutase gene and a survival motor neuron gene, said mutation associated with neuron generation." Applicants argue that the as-filed disclosure of Jessell does not provide support for obtaining human ES cells, and that a review of Jessell will show that there is no disclosure therein of any means to obtain human ES cells bearing a disease causing mutation, because Jessell discusses obtaining ES cells with disease causing mutations through the use of non-human transgenic animals. See pages 4-5 of the Response. Applicants argue that Jessell's techniques involve the use of transgenic non-human animals, or isolating SOD or SMN mutations from living or dead patients who have ALS or SMA to obtain mutated human cells, which has nothing to do with obtaining human ES cells carrying SOD or SMA mutations. See p. 5 of the Response. Applicants' arguments are directed to Jessell's disclosure not supporting using human ES cells, but teaching using transgenic animals, and that there is no such thing as a transgenic human. Thus, Applicants argue that Jessell is not considered prior art. See page 6 of the Response.

These arguments have been considered, but are not persuasive. The final rejection on page 8 of the Office action, mailed 7/30/10 does not refer to human ES cells, but states that methods for identifying candidate agents for treating conditions associated with motor neuron degeneration using ES cells are known. Thus, the rejection does not rely upon the Jessell patent with regard to using or producing human ES cells, because the Thomson and Harper reference provide sufficient guidance and motivation to produce human ES cells. The Jessell reference provides guidance to show that methods of identifying candidate agents using ES cells are known in the art. Thus, Jessell is not required to have support for human ES cells, as asserted by Applicants, because human ES cells are taught and suggested by other references noted in the rejection of record. Jessell's allowed claim is not limited to human ES cells, nor is it required to be, when used in the context of the instant rejection. The concept of identifying candidate agents for treating a condition associated with motor neuron denegation using an ES cell (from any species, as broadly claimed by Jessell) is supported by their disclosure at least at col. 23, which teaches methods of identifying agents for treating a disease associated with motor degeneration by generating ES cells, contacting the ES cells with retinoic acid to produce neural progenitor cells, activating a Hedgehog signaling pathway to produce neurons, wherein some or all of the neurons are degenerated, contacting the degenerated neurons with a candidate agent and determining if the agent enhances regeneration of the degenerated neurons (col. 23, lines 19-50), and further contemplates that the neurons can contain mutations in a SOD or SMN gene (col. 24, lines 7-9). Thus, Jessell's as-filed disclosure provides ample support for the issued claim 1. Jessell is properly applied as art against the instant claims.

Applicants argue that the remaining references do not support an obviousness rejection because Thomson and Harper allegedly teach techniques to find mutated human ES cells, and Elsea teaches that mouse models do not work in certain human disease. None of this information would suggest the present invention at the time of the present invention was made without hindsight knowledge of the present invention. See page 7 of the Response. Applicants argue that neither Thomson nor Harper suggest any use for mutated human ES cells, and Elsea states a problem but does not suggest a solution. Thomson and Harper do not suggest a solution. Applicants argue that only their specification suggests a solution. See pages 8-9 of the Response.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Examiner has established that Jessell is a properly applied reference that antedates the instant invention. Accordingly, the rejection of record is maintained.

Claims 82-84, 96-98 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson et al. (Science, 282: 1145-1147, November 6, 1998) in view of Harper (J. of Assisted Reproduction and Genetics, 13(2): 90-95, 1996) in further view of US Pat. No. 7,390,659 (Issued June 24, 2008, cited previously) and Elsea et al. (ILAR Journal, 43(2): 66-79, 2002, cited previously) as applied to claims 52, 55, 58-60, 74, 75, 78-80, 85, 86, 88-94, 99, 100 and 101 above, and further in view of PGPub US 2005/0054092 A1.

Claims 57, 81, 87, 95 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson et al. (Science, 282: 1145-1147, November 6, 1998) in view of Harper (J. of Assisted Reproduction and Genetics, 13(2): 90-95, 1996) in further view of US Pat. No. 7,390,659 (Issued June 24, 2008, cited previously) and Elsea et al. (ILAR Journal, 43(2): 66-79, 2002, cited previously) as applied to claims 52, 55, 58-60, 74, 75, 78-80, 85, 86, 88-94, 99, 100 above, and further in view of US Pat. No. 5,972,955.

Both of these rejections are maintained. The Examiner has established that Jessell is a properly applied reference and antedates the instant invention.

.